

DTA 2023: BEYOND DTA, JULY 10-12, 2023

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Agenda

DTA 2023 Program

July 9, 2023
SUNDAY

Evening

5:00 PM – 8:00 PM Welcome reception - Mid Campus Green (2120 Campus Drive Evanston, IL)

July 10, 2023
MONDAY

Morning

7:45 AM – 8:30 AM Breakfast - EMP 2425 Lounge 1st Floor North

8:30 AM – 8:45 AM Welcome session - 164 McCormick Foundation Auditorium

8:45 AM – 9:30 AM **Keynote 1: T.Friesz, Chair**

Perspectives on Dynamic Traffic Assignment

Dr. Ke Han

9:30 AM – 10:30 AM **Session 1: Dr. Ke Han, Chair**

164 McCormick Foundation Auditorium

Day-to-day Traffic Dynamics with Strategic Commuters

Minghui Wu, Yafeng Yin and Jerome Lynch

Adjustment process of adaptive signal control strategies with route choices: a case study with Policy P0

Koki Satsukawa, Takamasa Iryo, Naoki Yoshizawa, Michael J. Smith and David Watling

10:30 AM – 11:00 AM **Break**

11:00 AM – 12:30 PM **Session 2: Y. Ouyang, Chair**

164 McCormick Foundation Auditorium

Estimation of time-dependent traffic volume using data-oriented dynamic traffic assignment

Masaaki Ishihara, Takamasa Iryo, Kenji Ikeda and Shohei Yasuda

Scalable Regional DTA with Meso-to-Macro Level Analysis and An Analytical and Simulation-Based Approach: Case Study of

Mohammad Abbasi, Feng Liu and Xuesong Zhou

Bi-level Optimization model for DTA Flow and Speed Calibration
Maryam Samaei, Mostafa Ameli, Jon Davis, Sean McQuade, Jonathan Lee, Benedetto Piccoli and Alexandre Bayen

12:30 PM – 2:00 PM

Lunch – SCJ Dining Room

July 10, 2023
MONDAY
Afternoon

2:00 PM – 3:30 PM

Session 3: Y. Nie, Chair

164 McCormick Foundation Auditorium

Departure time models with separable supply

Stephen Boyles and Hillel Bar-Gera

Simultaneous-swap Algorithms for Departure Time Choice

Jeroen Verstraete and Chris Tampere

Influence of Simulation Timestep Size and Pathfinding Interval Length on Path Patterns and Computational Cost in Dynamic Traffic Assignment

Siwei Hu, Pengyuan Sun, Daisik Nam, R. Jayakrishnan and Michael Hyland

3:30 PM – 4:00 PM

Break

4:00 PM – 5:30 PM

Session 4: S. Boyles, Chair

164 McCormick Foundation Auditorium

Metro Passenger Routing Choices Estimation with a Fully Differentiable Simulation-Based Optimization (SBO) Approach
Kejun Du, Enoch Lee, Qiru Ma, Zhiya Su and Hong K. Lo

A Scalable Framework for Public Transit Assignment

Prateek Agarwal, Tarun Rambha, Dhanus Lal and Ayush Kumar

Modeling Multi-modal Curbside Usage in Dynamic Networks
Jiachao Liu and Sean Qian

July 11, 2023
TUESDAY
Morning

7:45 AM – 8:30 AM	Breakfast - EMP 2425 Lounge 1 st Floor North
8:45 AM – 10: 30 AM	<p>Session 5: A. Zockaie, Chair 164 McCormick Foundation Auditorium</p> <p>Queue replacement principle for corridor problems with heterogeneous commuters <i>Takara Sakai, Takashi Akamatsu and Koki Satsukawa</i></p> <p>Lane Choice Equilibrium in Macroscopic Multi-Queue Node Model for Multilane Intersections <i>Xiaolin Gang, Michiel C.J. Bliemer and Mark P.H. Raadsen</i></p> <p>The Challenge of Computing the Cell Transmission Model Loading with Exact First-In-First-Out <i>Genaro Jr. Peque and Hillel Bar-Gera</i></p> <p>Dynamic Traffic Assignment with Physics-Informed Deep Learning <i>Shakiba Naderian, Ohay Angah, Yiran Zhang and Xuegang Ban</i></p>
10:30 AM – 11:00 AM	Break
11:00 AM – 12:00 PM	<p>Keynote 2: K. Smilowitz, Chair 164 McCormick Foundation Auditorium</p> <p>Large-scale Network Modeling Meets Machine Learning: Research Challenges and Opportunities <i>Dr. Carolina Osorio</i></p>
12:00 PM – 1:00 PM	Lunch – SCJ Dining Room

July 11, 2023
TUESDAY
Afternoon

1:00 PM – 2:30 PM

Session 6: J. Ban, Chair

164 McCormick Foundation Auditorium

Efficient Pedestrian and Bicycle Traffic Flow Estimation using Mobile Data Sources, Considering All Possible Paths

Simanta Barman, Michael Levin and Raphael Stern

A quasi-dynamic multi-region MFD stochastic user equilibrium model

Lawrence Duncan, Thomas Rasmussen and David Watling

Integrated Activity-Based Models with Dynamic Multimodal Simulation-Assignment with Macroscopic Congestion Functions

Yuhan Zhou and Hani Mahmassani

July 11, 2023
Tuesday
Evening

5:00PM – 6:30PM

- Pick up will begin at 3:30 PM from Hilton Orrington at 1710 Orrington Ave, Evanston, IL to attend the Chicago Architecture Tour from 5:00 PM - 6:30 PM
- Dinner at RPM from 7:00 PM – 10:00 PM (317 N Clark St, Chicago, IL 60654)

July 12, 2023

WEDNESDAY

Morning

7:45 AM – 8:30 AM	Breakfast - EMP 2425 Lounge 1 st Floor North
8:45 AM – 10:30 AM	<p>Session 7: X. Zhou, Chair 164 McCormick Foundation Auditorium</p> <p>Mean-Field Differential Congestion Games Involving Human-Driven Vehicles (HDVs) and Connected-and-Autonomous Vehicles (CAVs) <i>Sharon Di, Terry Friesz, Xuegang Ban and Vikash Gayah</i></p> <p>A traffic flow model considering the driving behaviour of connected, cooperative and automated vehicles <i>Roberta di Pace, Facundo Storani, Rui Jiang and Stefano de Luca</i></p> <p>Network-level Performance of Dedicated Lanes for Autonomous Vehicles in Large-Scale Transportation Systems <i>Ehsan Kamjoo, Fatemeh Fakhraoosavi, Ali Zockaie and Archak Mittal</i></p>
10:30 AM – 11:00 AM	Break
11:00 AM – 12:30 PM	<p>Session 8: I. Takamasa, Chair 164 McCormick Foundation Auditorium</p> <p>Inter-operator competition in a regulated dockless bikesharing market with price-sensitive travelers <i>Hongyu Zheng, Kenan Zhang and Marco Nie</i></p> <p>Scalable Routing of Multiple Vacant Taxis in Large Networks <i>Guocheng Jiang, Xinlian Yu and Song Gao</i></p> <p>Equitable Collaborative Routing using Incentive Mechanisms <i>Chaojie Wang and Srinivas Peeta</i></p>
12:30 PM – 2:00 PM	Lunch – SCJ Dining Room

July 12, 2023

WEDNESDAY

AFTERNOON

2:00 PM – 3:30 PM

Session 9: A. Talebpour, Chair
 164 McCormick Foundation Auditorium

Proactive Defense-based Cyberattack Mitigation for Connected and Autonomous Vehicles using Moving Target Defense
Yangjiao Chen and Srinivas Peeta

Dynamic Evacuation Management: Shelter Allocation and Traffic Assignment with Telecommunication Networks
Hassan Idoudi, Mostafa Ameli, Cyril Nguyen Van Phu, Abderrezak Rachedi and Mahdi Zargayouna

Improving Air Traffic Flow Management with Macroscopic Traffic Flow Modelling: Model Formulation, Simulation and Comparison
Christopher Cummings, Vasileios Volakakis and Hani Mahmassani

3:30 PM – 4:00 PM

Break

4:00 PM – 5:30 PM

Special Session:
 164 McCormick Foundation Auditorium

Beyond DTA – a Panel Discussion
H. Mahmassani, Moderator
Terry Friesz
R. Jayakrishnan
Yanfeng Ouyang
Karen Smilowitz

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